Molecular Pharmacology — A Publication of the American Society for Pharmacology and Experimental Therapeutics

Founded by Avram Goldstein—1965

Stephen F. Traynelis, Editor
John R. Hepler, Deputy Editor

ASSOCIATE EDITORS
Srikumar Chellappan, Arthur Christopoulos, Stuart Cull-Candy, Haian Fu, Peter Houghton, Jeanne Nerbomme, John Tesmer, and Kenneth E. Thummel

Graeme Milligan, Minireview Editor

EDITORIAL AND ADVISORY BOARD

Radu Aricescu
Giuseppe Battaglia
Jeffrey L. Benovic
Nigel J. M. Birdsal
Julie Blendy
Kendall J. Blumer
Cecilia Bouzat
Nigel Bunnett
Thomas P. Burris
Meritxell Canals
William A. Catterall
Hong-Zhuang Chen
Xiaodong Cheng
Richard B. Clark
Susan P. C. Cole
Adrienne Cox
Niels Decher
Mark Dell’Acqua
Phillip A. Dennis
Jerod Denton
Jian Ding
George Dubyak
Ronald S. Duman
Frederick J. Ehler
Raymond Evers
Michael Freissmuth
Liwu Fu
Yoshiaki Fujii-Kuriyama
Hiroyasu Furukawa
Aurelio Galli
Ulrik Gether
David Gewirtz
Alasdair Gibb
Catherine Godson
Frank J. Gonzalez
Michael M. Gottesman
Patrick Griffin
Grace Guo
Masatoshi Hagiwara
Randy Hall
Johannes Hell
Ellen Hess
Donald Hilgemann
Hidenori Ichijo
Kenneth A. Jacobson
Andrew Jenkins
Eric F. Johnson
Mathew Jones
Marcelo Kazaniez
Terry Kenakin
Brian K. Kobikla
Herman Koeppel
Richard Kolesnich
Evi Kostenis
Costas Koumenis
Rakesh Kukreja
Nevin Lambert
Ping-Yee Law
Amy Lee
L. M. Fredrik Leeb-Lundberg
Henry Lester
Robin Lester
Lian Li
Zijian Li
Sophie Loterztajn

Tim Lovenberg
Peter MacKenzie
Ken Mackie
Sridhar Mani
Jeffrey Martens
Andrew McCammon
Nael McCarty
Dan McGhee
James O. McNamara
Kathryn E. Meier
Martin Michel
Laurence Miller
Peter Mohler
Rita Nahta
Richard R. Neubig
Kim A. Neve
Robert A. Nicholas
Eric Ortlund
Robert E. Oswald
Jason Papin
Gavril W. Partemak
Tarun Patel
Dianne Perez
Jean-Philippe Pin
John J. Reiners, Jr.
Des Richardson
Michael Robinson
Michael A. Rogawski
Bryan L. Roth
Arnold E. Ruoho
Jill Siefried
Shivendra V. Singh
Alan Smreka
Bruno Stieger
Andrew Thorburn
Andrew Tobin
JoAnn Trejo
David J. Waxman
David Weinskener
Jurgen Wess
Keith Williams
Danny Winder
Richard D. Ye
Lixia Yue
Michael Zhu

BOARD OF PUBLICATIONS TRUSTEES
Mary Vore, Chair; Randy A. Hall, Michael F. Jarvis, Kathryn E. Meier, Edward T. Morgan, Kim A. Neve, David R. Sibley, Stephen F. Traynelis, Jeffrey M. Witkin, and Judith A. Siuciak, ex officio

ASPET EXECUTIVE OFFICER: Judith A. Siuciak
Journals Director: Richard Dodenhoff Peer Review Manager: Dianne King-McGavin Senior Peer Review Coordinator: Mary Blackwood

Molecular Pharmacology — ISSN 1521-0111 is published monthly online only (two volumes per year beginning in January and July) by the American Society for Pharmacology and Experimental Therapeutics, 9650 Rockville Pike, Bethesda, MD 20814-3995. E-mail: subscriptions@aspet.org. ASPET web site: aspet.org. Journal web site: molpharm.aspetjournals.org. Subscription rates at aspetjournals.org/site/subscriptions/index.xhtml. GST Tax Number for Canadian subscribers: BN: 13489 2350 RT. Indexed or abstracted by: Biochemistry & Biophysics Citation Index®, Biological Abstracts, Current Contents®, Current Contents: Life Sciences, EMBASE/Excerpta Medica, Index Medicus, Medical Documentation Service®, Reference Update®, Research Alerts®, Science Citation Index®, and SciSearch®.

Journal and ASPET office: 9650 Rockville Pike, Bethesda, MD 20814-3995. Telephone: 301-634-7060. Fax: 301-634-7061. E-mail: info@aspet.org. ASPET web site: aspet.org. Journal web site: molpharm.aspetjournals.org. Editorial matters should be addressed to Dr. Stephen F. Traynelis, Editor, Molecular Pharmacology, at the above address. Instructions to Authors: See molpharm.aspetjournals.org for the Instructions to Authors and the ASPET Authorship Responsibility, Financial Disclosure, and Chemical Structure Statement forms.

Copyright information: Molecular Pharmacology is copyrighted by the American Society for Pharmacology and Experimental Therapeutics. For permission to photocopy entire articles from Molecular Pharmacology, see www.copyright.com or contact the Copyright Clearance Center (CCC), Inc., 222 Rosewood Dr., Danvers, MA 01923, Telephone: 978-750-8400. For permission to reprint portions of articles such as figures and tables or to reprint entire articles in a thesis or dissertation, see www.aspet.org/webforms.aspx?ekfrm=84. Photocopying or printing articles beyond that permitted by Sections 107 and 108 of the U.S. Copyright Law is allowed, provided that the $25.00-per-copy fee is paid through the CCC. Classroom photocopying is permitted at no fee, provided that students are not charged more than the cost of duplication. This consent does not extend to other kinds of copying. Reproduction of any portion of an article for subsequent republication requires permission of ASPET.

Disclaimer: The statements and opinions contained in the articles of Molecular Pharmacology are solely those of the individual authors and contributors and not of the American Society for Pharmacology and Experimental Therapeutics. The appearance of advertisements in the journal is not a warranty, endorsement, or approval of the products or their safety. The American Society for Pharmacology and Experimental Therapeutics disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in any article or advertisement.

Copyright © 2015 by the American Society for Pharmacology and Experimental Therapeutics. All rights reserved.

Reprints of individual articles are available from the journal web site using the pay-per-view option for nonsubscribers.

Reprints in large quantities for commercial or academic use may be purchased from ASPET. For information and prices, call 301-634-7063.

Change of IP addresses: ASPET will help institutional subscription administrators update IP address ranges as requested. Subscription administrators can make these changes at the journal site using their account user name and password.

Reprints in large quantities